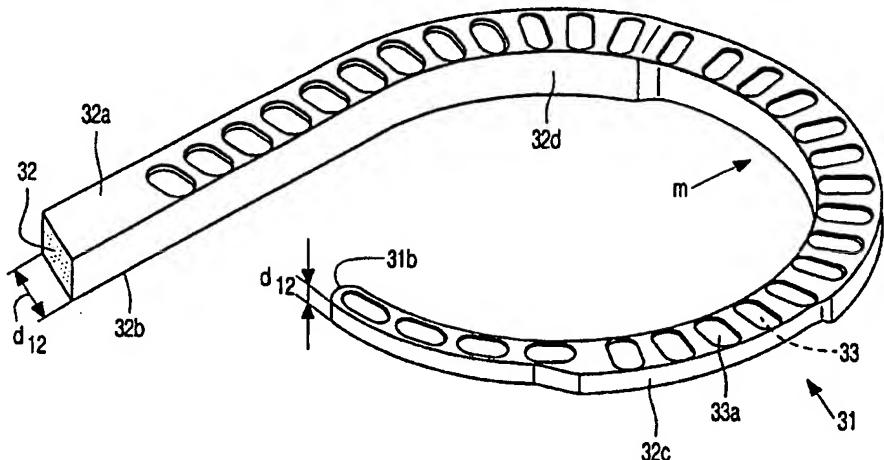




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : H04R 25/00		A3	(11) International Publication Number: WO 00/45618 (43) International Publication Date: 3 August 2000 (03.08.00)
(21) International Application Number:	PCT/EP99/10489	(81) Designated States: AU, JP, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).	
(22) International Filing Date:	27 December 1999 (27.12.99)		
(30) Priority Data:	99200242.8 28 January 1999 (28.01.99) EP	Published <i>With international search report.</i>	
(71) Applicant:	COCHLEAR LIMITED [AU/AU]; 14 Mars Road, Lane Cove NSW 2066 (AU).	(88) Date of publication of the international search report:	16 November 2000 (16.11.00)
(72) Inventors:	PEETERS, Stefaan, E., A.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). DEMAN, Peter, R., A.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).		
(74) Agent:	SCHRIJNEMAEKERS, Hubert, J., M.; Internationaal Octrooibureau B.V., Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).		

(54) Title: COCHLEA-IMPLANTABLE AUDITIVE PROSTHESIS



(57) Abstract

An auditive prosthesis comprising an elongated carrier (31) which can be implanted in the scala tympani of a cochlea, which carrier is provided, over at least a part of its length, at a first side face with electrode elements and, at a second side face (32b) facing away from the first side face (32a), with an electric conductor. Said side faces are interconnected by a third side face (32c) and a fourth side face (32d), said first side face extending, in a state where the carrier is implanted in the scala tympani, opposite the basilar membrane of the cochlea. In order to achieve, after implantation, an information transfer to the auditory nerve which is as complete as possible, the third side face and the fourth side face of the carrier are arranged, over at least a part of the length of the carrier where electrode elements are present, at distances from each other which are at least substantially equal to corresponding dimensions of the scala tympani which are parallel to the basilar membrane. After implantation of the carrier, the scala tympani is at least substantially completely filled, over at least a part of the area extending between the fenestra cochlea and the helicotrema, in a zone extending parallel to the basilar membrane.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakhstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

INTERNATIONAL SEARCH REPORT

Internatc	Application No
PCT/EP 99/10489	

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04R25/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04R A61N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 38653 A (ANTWERP BIONIC SYSTEMS NV ;PEETERS STEFAAN (BE); OFFECIERS ERWIN () 23 October 1997 (1997-10-23) cited in the application page 2, line 6 - line 24 page 5, line 13 -page 7, line 8 page 9, line 6 - line 26 abstract; claims 1,2; figures 1,4,5	1,2,5, 8-10,13
X	WO 93 06698 A (COCHLEAR PTY LTD ;UNIV MELBOURNE (AU)) 1 April 1993 (1993-04-01)	1,2,5,9, 10,13
A	the whole document	3,4,6
A	WO 97 26943 A (ADVANCED BIONICS CORP ;LOEB GERALD E (CA)) 31 July 1997 (1997-07-31) abstract; figure 2A	1,3,4

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art,
- "&" document member of the same patent family

Date of the actual completion of the international search

29 August 2000

Date of mailing of the international search report

04/09/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Coppieters, S

INTERNATIONAL SEARCH REPORT

Information on patent family members			Internati	Application No
			PCT/EP	99/10489
Patent document cited in search report	Publication date	Patent family member(s)		
WO 9738653 A	23-10-1997	BE 1010268 A AU 713074 B AU 2562697 A EP 0900070 A JP 2000508210 T		07-04-1998 25-11-1999 07-11-1997 10-03-1999 04-07-2000
WO 9306698 A	01-04-1993	AT 176568 T AU 675411 B AU 2686492 A CA 2119358 A DE 69228397 D DE 69228397 T EP 0724819 A JP 7501951 T US 5578084 A		15-02-1999 06-02-1997 27-04-1993 01-04-1993 18-03-1999 26-08-1999 07-08-1996 02-03-1995 26-11-1996
WO 9726943 A	31-07-1997	CA 2243632 A JP 2000507843 T		31-07-1997 27-06-2000